NATHAN KEIR EDEL

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Summary:

- 14 years of Software Engineering, primarily with Java enterprise applications
- Extensive Linux experience as user, developer and administrator
- Highlights:
  - Extensive experience with back-end and middle-tier development in Java applications,
  - performance tuning/debugging performance problems in Java applications,
  - making commodity hardware perform well under extreme workloads.

WORK EXPERIENCE

Zipcar *Mar 2016 —*

Software Engineer

- Part of a small team building a new distributed system as the new core platform for Zipcar.
- Back-end development of services in Java and Groovy, in particular extracting smaller services from a monolithic (Grails) fleet management application and writing new services to support broader Zipcar use cases.
- Built a caching and search service used by the web UI and mobile apps.

Technologies used: *Java, Groovy, PostgreSQL, MongoDB, RabbitMQ, REST, SQL, Cassandra*

Facebook *Oct 2014 — Dec 2015*

Software Engineer

- Back-end development, primarily in Java.

Guidewire Software *2006 — Oct 2014*

Senior Software Engineer

2012 — 2014: Suite Performance team

2006 — 2011: Product/Platform teams

- Implemented proximity-search and geolocation features, including integration to outside geocoding services. Maintained the feature through 3 major release cycles. Improved performance by 10x across releases.
- Built a customer-facing reviews feature, which allowed companies implementing insurance suite to author surveys, collect replies, and analyze the results. This project required a substantial integration between multiple existing products.
- Many smaller features in multiple applications and the internal platform.
- Developer for internal "performance harness" application used for benchmark/scalability tests, cluster management, and performance analysis. Contact point for performance-related bugs.
- Worked with application developers on all three core products and platform team to find and fix performance and scalability issues.
- Extensive other infrastructure work to support performance testing and dev-ops.

Technologies used: *Java, Linux, SOAP/REST, Tomcat, Servlets/JSP, Oracle, SQL, Perl*

Panta Systems *2004 — 2005*

Software Engineer

Panta was a hardware startup, building High-Performance Computing clusters.

- Created a Linux kernel VFS wrapper to enable transparent fail-over between mount points for active-active high availability on NFS.
- Developed components for cluster management product to manage and automatically configure storage server hardware and OS.
- Evaluated, benchmarked and deployed various storage technologies and hardware.

Technologies used: *C, various scripting, VFS, Linux Kernel, SCSI/SAS, RAID, Infiniband, pxe, NFS*

University of California, Santa Cruz *2002 — 2004*
Graduate Student Researcher

- Research topics were file/storage systems applications for upcoming NVRAM technologies.
- Developed a mechanism for compressing inodes and a compressed in-memory file system; built versions in user space and for the Linux VFS. Two conference papers accepted and published.

Technologies used: *C, Java, Linux kernel/VFS*

Kana Software *1999 — 2002*
Software Engineer

- Enterprise Java development and Perl web development.

Technologies used: *Java, Perl, Servlets/JSP, Swing, SMTP, XML/DOM, SMTP/MIME/POP/IMAP*

EDUCATION

University of California, Santa Cruz *2011*
M.S. in Computer Science

- Thesis: "*MRAMFS: A Compressing File System for Byte-Addressable NVRAM*"
- Advanced seminars included Operating Systems, Storage Systems and Archival Storage
- Regents Fellowship; TA for CMPS115 *Software Methodology*

Dartmouth College, Hanover, NH *1999*

- B.A. in Anthropology. Computer Science Minor.

PUBLICATIONS

Nathan K. Edel, Deepa Tuteja, Ethan L. Miller, and Scott A. Brandt, "MRAMFS: A Compressing File System for Non-Volatile RAM," *Proceedings of the 12th IEEE/ACM International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS 2004)*, Volendam, Netherlands, Oct. 2004

Nathan K. Edel, Ethan L. Miller, Karl S. Brandt, and Scott A. Brandt, "Measuring the Compressibility of Metadata and Small Files for Disk/NVRAM Hybrid Storage Systems," *Proceedings of the 2004 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS'04)*, San Jose, CA, Jul. 2004

ACTIVITIES & INTERESTS

- Photography
- Travel and Frequent Flyer miles

RELEVANT SKILLS

Languages: (*proficient-to-expert*) Java *including JDK8* (*comfortable)* C, Gosu, Groovy, Perl, SQL

Application/Web Server: Jetty, Tomcat, Apache httpd

Technologies/APIs: Servlets/JSP, Linux kernel APIs (VFS especially), XML/DOM, JSON, REST/SOAP/WSDL/web services, email protocols (MIME, SMTP, IMAP, POP3), RabbitMQ, *some familiarity with other J2EE technologies*

Development Tools: IntelliJ IDEA, perforce, maven, git/BitBucket/GitHub, Jira, gcc/gdb, *some familiarity with Eclipse, Gradle,*

Operating Systems: Linux (*20 years+ from SLS & kernel 0.99*), Windows (end-user)

Databases: *developed applications on top of* Oracle, mysql, MS SQL Server, PostgreSQL, Cassandra, HBase, *including some familiarity with operational aspects of each.*

Hardware: extensive familiarity with commodity servers and storage hardware